

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP2004/010156

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 B01D3/00 B01D53/18 B01J8/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 IPC 7 B01D B01J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4 102 778 A (RUETHER JOHN A) 25 July 1978 (1978-07-25) column 10, line 47 – line 64; figure 5	
A	US 2001/055548 A1 (AGOERO ROBERT ET AL) 27 December 2001 (2001-12-27) paragraph '0054!; figure 1	
A	US 5 882 610 A (CAMERON CHARLES ET AL) 16 March 1999 (1999-03-16) column 6, line 32 – line 42; figures 2,8-10	
A	DE 29 19 462 A (MANTEUFEL ROLF) 10 July 1980 (1980-07-10) cited in the application the whole document	

 Further documents are listed in the continuation of box C. Patent family members are listed in annex.

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Date of the actual completion of the International search

Date of mailing of the International search report

17 November 2004

01/12/2004

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Information on patent family members

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Patent document cited in search report		Publication date	Patent family member(s)		Publication date
US 4102778	A	25-07-1978	CA	1042021 A1	07-11-1978
US 2001055548	A1	27-12-2001	FR	2807673 A1	19-10-2001
			CA	2343845 A1	17-10-2001
			EP	1147809 A1	24-10-2001
			JP	2001347158 A	18-12-2001
US 5882610	A	16-03-1999	FR	2745201 A1	29-08-1997
			ES	2135320 A1	16-10-1999
			IT	MI970412 A1	26-08-1998
			JP	9225289 A	02-09-1997
			NL	1005354 C2	28-08-1997
			NL	1005354 A1	28-08-1997
DE 2919462	A	10-07-1980	AT	314 T	15-11-1981
			BE	873352 A2	02-05-1979
			BR	7902695 A	04-11-1980
			CA	1120396 A1	23-03-1982
			DE	2919462 A1	10-07-1980
			EP	0013284 A1	23-07-1980
			JP	55102895 A	06-08-1980
			JP	3051674 Y2	06-11-1991
			JP	63167093 U	31-10-1988
			US	4267978 A	19-05-1981